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Evaluation of Recycled Rubber in
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None

8. ABSTRACT

Roughly 242 million used tires are generated annually in the United States. Many of these tires end up being landfilled or stockpiled. The stockpiles are unsightly, unsanitary, and also collect water which creates the perfect breeding ground for mosquitoes, some of which carry disease.

In an effort to reduce the number of used tire stockpiles the federal government mandated the use of recycled rubber in federally funded, state implemented department of transportation (DOT) projects. This mandate required the use of recycled rubber in 5% of the asphalt cement concrete (ACC) tonnage used in federally funded projects in 1994, increasing that amount by 5% each year until 20% was reached, and remaining at 20% thereafter. The mandate was removed as part of the appropriations process in 1994, after the projects in this research had been completed.

This report covers five separate projects that were constructed by the Iowa Department Of Transportation (DOT) in 1991 and 1992. These projects had all had some form of rubber incorporated into their construction and were evaluated for 5 years.

The conclusion of the study is that the pavements with tire rubber added performed essentially the same as conventional ACC pavement. An exception was the use of rubber chips in a surface lift. This performed better at crack control and worse with friction values than conventional ACC. The cost of the pavement with rubber additive was significantly higher. As a result, the benefits do not outweigh the costs of using this recycled rubber process in pavements in Iowa.

9. KEY WORDS

Asphalt Rubber Cement, Rubber Chips,
Recycled Tires, ACC, ARC

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